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None

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(54) A beverage container with dispensing means

(57) A container for dispensing beverages through a straw includes access means 44 with one or more cuts 44A, 44B radiating away therefrom. On pushing the straw through the access means 44 to rupture the inner layer of the container, a tab defined by the cuts 44A, 44B is pushed inwardly to define an air inlet passage adjacent the straw.

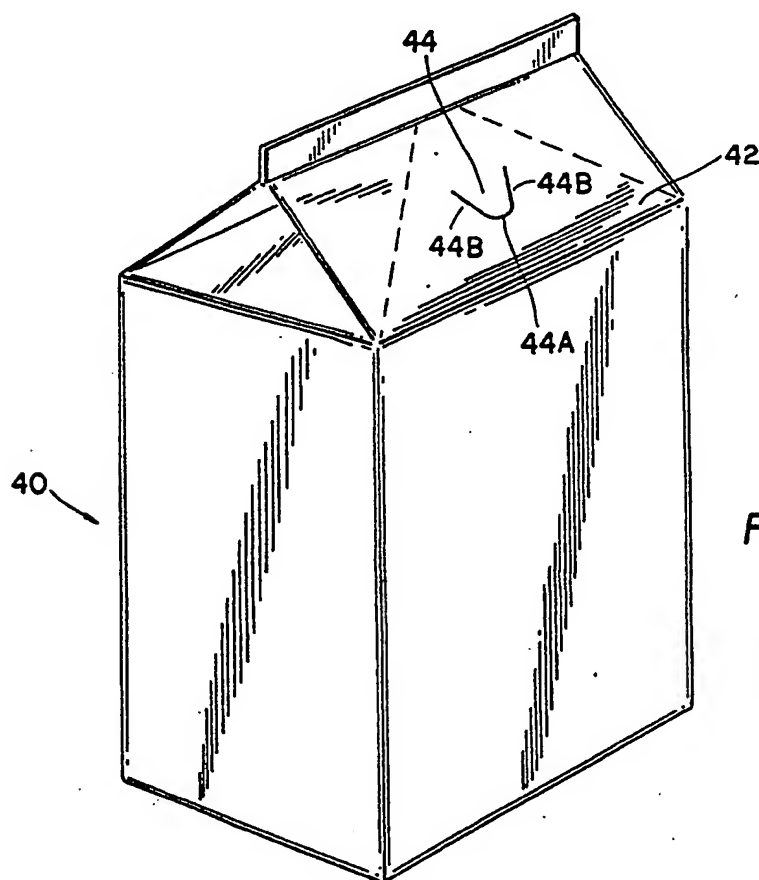
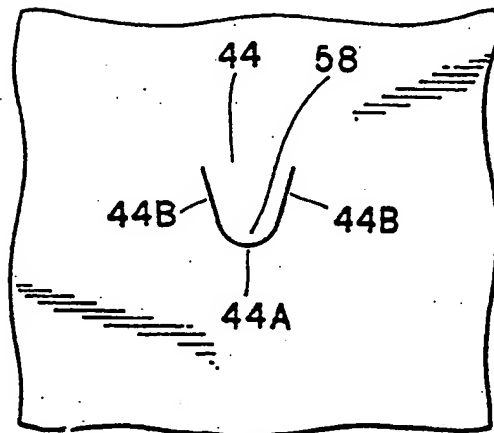
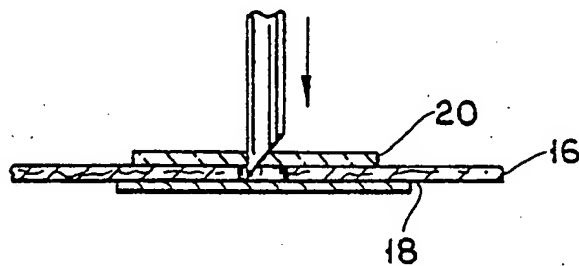
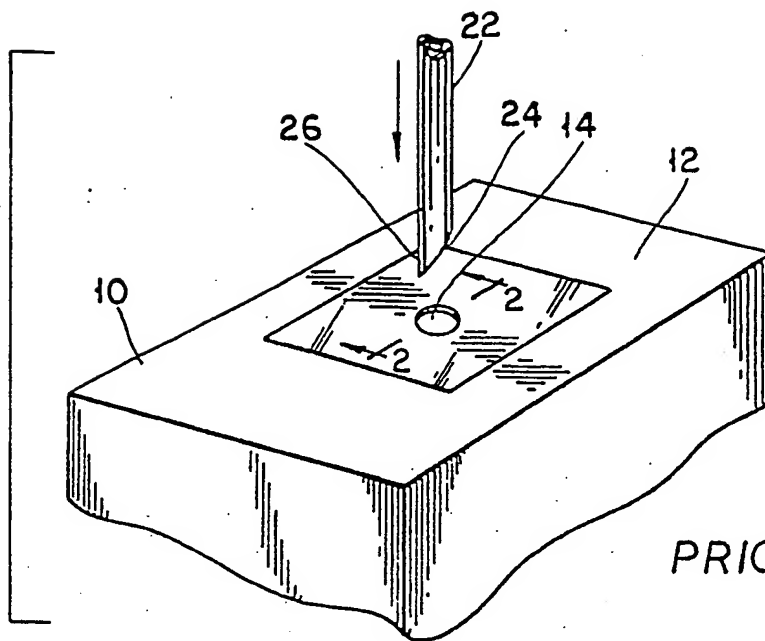


FIG. 3

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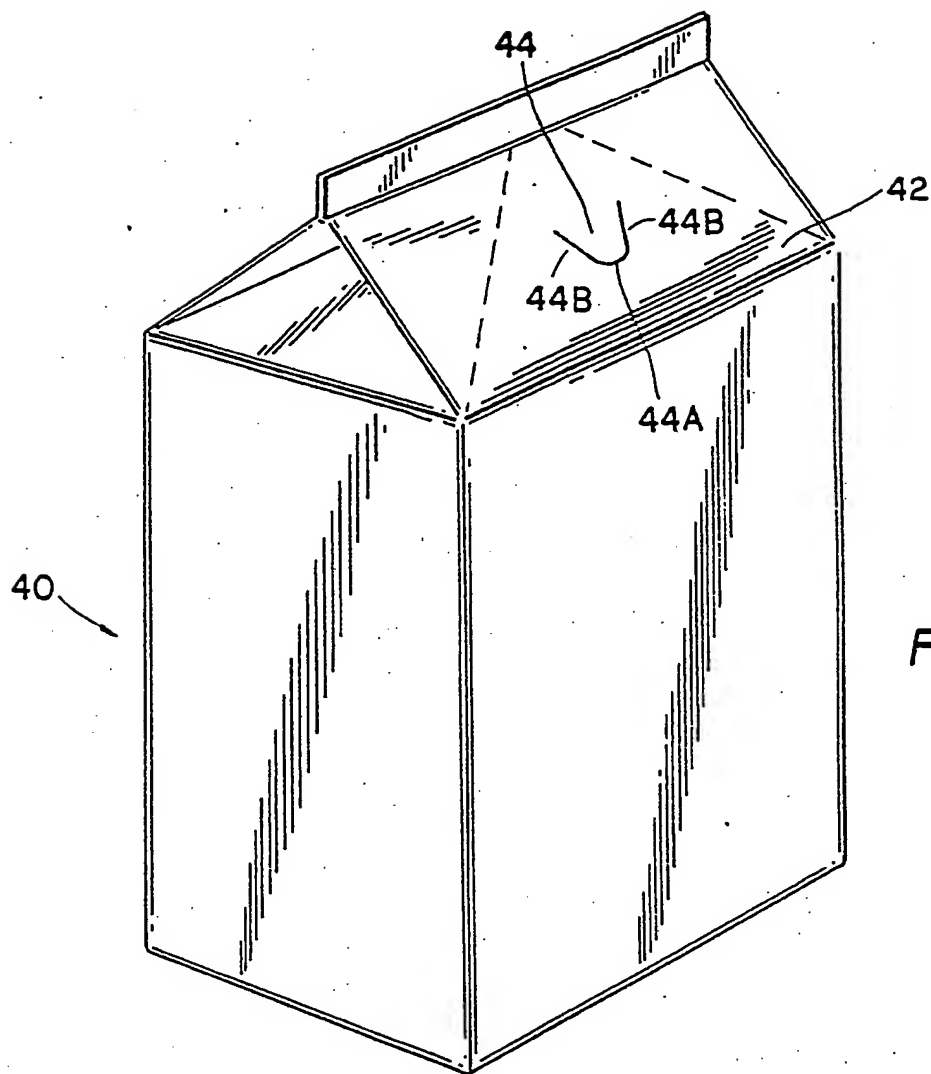


FIG. 3

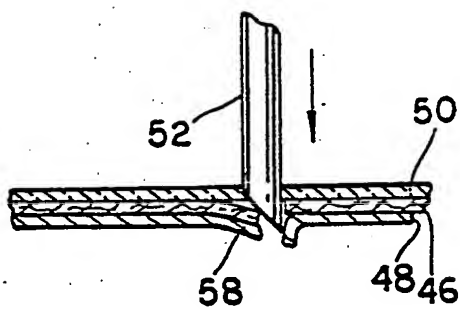


FIG. 5

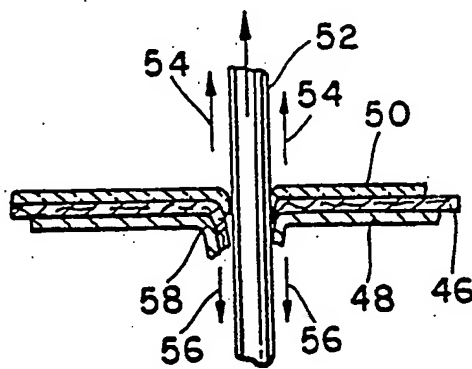


FIG. 6

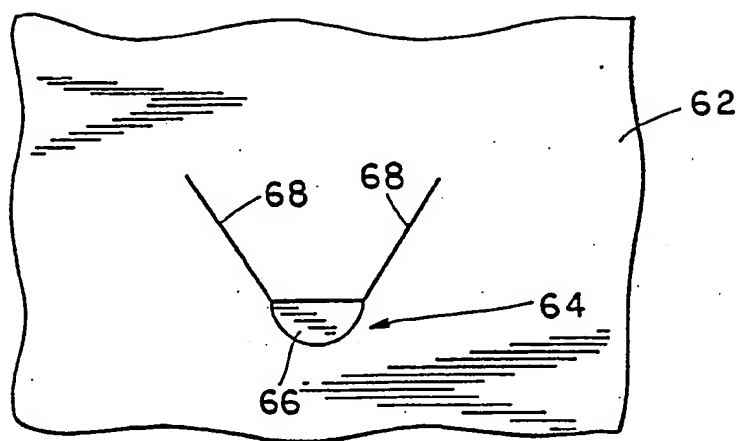


FIG. 7

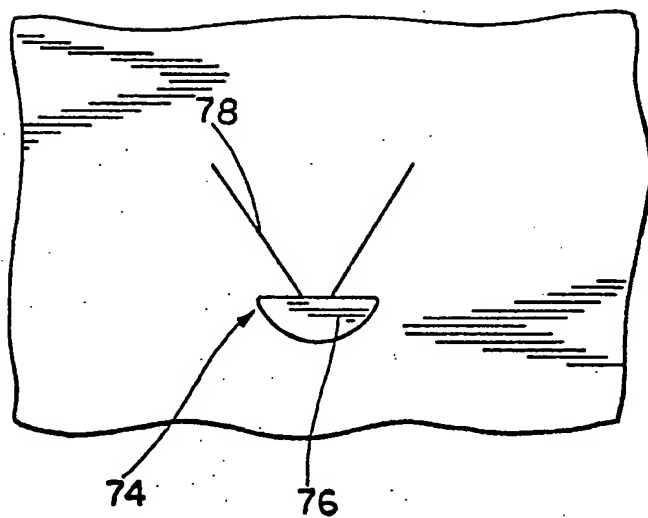


FIG. 8

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A BEVERAGE CONTAINER WITH NOVEL DISPENSING MEANS

BACKGROUND OF THE INVENTION

a. Field of Invention

This invention pertains to a container for dispensing
5 beverages such as fruit juices with access to allow a straw into
the container, and more particularly to a beverage container with
an integral access means arranged to permit a straw to be
introduced into the container which access means being adapted to
provide venting for the container.

10 b. Description of the Prior Art

It has been found that containers for beverages, such as fruit
juices and the like, may be advantageously made of several plies
of paper, fiber, plastic or other materials, as well as
combinations thereof. Such containers can be made relatively
15 inexpensively yet they are attractive to the customers. Often such
containers are provided at least on one surface with a round access
hole covered with aluminum foil or other sheet material secured
to the container. The beverage is dispensed from the container via
a straw, frequently removably secured to the container. For use,
20 the straw is removed from the container, and its tip, which may be
slanted to form a piercing point, is used to puncture through and
push the cover material out of the hole. The straw is then

inserted into the container and used in the normal fashion. A frequent problem with such containers is that because of the very nature of the materials used to make them, the container sidewalls are relatively soft. When a person holds the container while using the straw to break the cover, he inadvertently squeezes the container sidewalls generating a positive pressure to build up therein. Moreover, pressure within the container may also build while the container is being filled, or because of extraneous heat. As a result, when the straw is inserted into the container, liquid may spurt out of the access hole, and/or through the container. Another problem with the above-described containers is that normally the diameter of the round straw conforms to the diameter of the access hole so that once the straw is inserted a seal is formed between the straw and the container wall. This seal prevents air from getting into the container while the beverage is sucked out through the straw. As a result, a negative pressure is generated inside the container which eventually forces the container to collapse before its contents are fully dispensed or to burp when sucking is stopped.

OBJECTIVES AND SUMMARY OF THE INVENTION

In view of the above mentioned disadvantages of the prior art, an objective of the present invention is to provide a beverage container with an access means which vents the container and cooperates with a straw for dispensing the beverage, wherein the beverage does not spurt out when the straw is initially inserted.

A further objective is to provide a beverage container with an access means which provides venting during the beverage dispensing thereby preventing the collapse of the container as the beverage is dispensed.

5 Yet another objective is to provide a container which is easy to manufacture, yet can be made into an attractive package. Other objectives and advantages of the invention shall become apparent from the following description of the invention. Briefly a beverage container constructed in accordance with this invention
10 includes a closed body with a top surface, access means formed on said top surface and cover means for said access means to maintain the container air and vacuum tight thereby ensuring that the beverage disposed therein does not spoil prematurely.

The access means preferably consists of two portions: an
15 opening means having overall dimensions substantially smaller than a corresponding straw; and a plurality of cutting lines extending from the opening means and cooperating therewith to form venting tabs for the container while the straw is inserted into the container and used to dispense a beverage therefrom.

20 BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 shows a perspective view of a prior art beverage container;

Figure 2 shows a partial sectional view of the container of Figure 1 being pierced by a straw;

25 Figure 3 shows an isometric view of a container constructed in accordance with this invention;

Figure 4 shows a partial plan view of the beverage container of Figure 3;

Figure 5 shows a partial sectional view of the container of Figure 3 being pierced by a straw;

5 Figure 6 shows a view similar to Figure 5 with the straw in position for beverage dispensing;

Figure 7 shows a plan view of an alternate embodiment;

Figure 8 shows a plan view of another alternate embodiment.

DETAILED DESCRIPTION OF THE INVENTION

10 Referring first to Figures 1 and 2, a typical prior art beverage container consists of a body 10 which may have a square, rectangular, cylindrical, oval or other geometric shape, with a top surface 12. Surface 12 is provided with a circular access hole 14. The body may be made for example of a paper or cardboard layer 16. Hole 14 is covered with a foil 18 made of a metallic or plastic material to keep the contents from spoiling, at least until the package is opened. Optionally a wrapper 20 is also secured either all around the container, or at least on top of hole 14 to protect the container and maintain it waterproof. The wrapper may be made of a transparent material such as a plastic material. Alternately, wrapper 20 may consist of a pull-away tab.

25 The beverage from the container 10 may be withdrawn for example by using a straw 22. Frequently straw 22 is cut diagonally at one end, such as 24 to form a piercing point 26. As shown in Figure 2, the container is opened by pushing the point 26 of straw 22 against the wrapper portion 20 disposed above the hole

14 causing the wrapper 20 and foil 18 to puncture and allowing the straw to be inserted into the container. The disadvantages of the container 10 are discussed above.

Referring now to Figures 3-6, the present invention provides
5 a container 40 which, like container 10, may have any desired geometric shape. The container 40 includes a top surface 42 with an access means 44. As shown more clearly in Figures 5 and 6, the container may be made for example of several layers as described herein. More particularly, the container 40 is made of a cardboard
10 46, having an inner barrier layer 48 made of a plastic material or a foil. The outside of the container is covered with a protective wrapper 50 preferably made of polyethylene or other plastic material. The three layers 46, 48 and 50 are laminated to each other. Alternatively, the layers 48 and/or 50 are applied over a
15 region of layer 46 adjacent to the access means 44. Importantly the access means 44 consists of two portions: a hole portion 44A, and a plurality of cuts 44B. The portion 44A passes through layer 46 and may have a variety of shapes. Preferably the shape of
20 portion 44A is selected to partially conform to the shape of the straw to be used. For example, if a straw 52 having a circular cross-section is to be used, hole portion 44A has a partially circular shape, having a radius approximately equal to or smaller than the radius of the straw. Cuts 44B extend tangentially away from section 44A, each cut having a length which exceeds the radius
25 of section 44A, or straw 52. These cuts 44B define a wedge shaped region 58, therebetween on the surface 42 as shown.

The beverage container constructed in accordance with this invention is used as follows. A straw 52 (similar to the straw shown in Figures 1 and 2) is pushed against the access means 44 as shown in Figure 5. As the straw 52 is pushed into the container it ruptures the layers 48, 50. Moreover, since the diameter of the straw exceeds the dimensions of the cut 44A, the straw 52 separates the region 58 along cuts 44B and pushes it downwardly to form a tab as shown in Figures 5 and 6. Importantly as region 58 separates, it allows gas disposed on top of the container, near access means 44 to escape as indicated by the arrow 54. As a result, during this initial stage, pressure built up within the container is relieved and the beverage will not surge through the straw. When the straw is pushed far enough into the container as shown in Figure 6, the beverage is sucked out through the straw in the normal manner. In this position, the bent region 58, forms a seal around the straw, however it is shaped so that it will allow air to enter into the container to displace the beverage sucked out as shown by arrow 56. In this manner syphoning and the collapse of the container are avoided.

Of course, other shaped straws may be used as well with a suitable change in the shape of cut 44A. For example, if the straw is triangular, semi-circular section 44A is replaced by a triangular section having smaller dimensions than the straw to insure that when the straw is inserted therein the hole and the regions formed by the cuts act in a manner similar to the one described above.

In an alternate embodiment shown in Figure 7, surface 62 of a container similar to container 40 in Figure 3, is provided with an access means 64. The access means 64 includes a semicircular D-shaped opening 66 and two or more cuts 68 extending away therefrom. When a straw is inserted into the container, it pierces the layers covering hole 66.

In the embodiment of Figure 8 access means 74 includes a D-shaped hole 76 and a plurality of cuts 78 spaced closer than in the embodiment of Figure 7. When a straw (having a diameter equal for or slightly bigger than the diameter of hole 76) is pushed through the container, several tabs formed by cuts 78 are forced and pushed downward between cuts 78.

Obviously numerous other modifications can be made to the invention without departing from its scope as defined in the appended claims.

We claim:

1. A beverage container comprising:

a body for holding a beverage and including a top surface said top surface having access means for dispensing said beverage, said access means including opening means and at least one cut extending away from said opening means, said opening means and said cut cooperating to form folding tabs when said straw is inserted into said opening.

2. The beverage container of claim 1 wherein said opening means has a shape partially conforming to the shape of said straw.

3. The beverage container of claim 2 wherein said opening means is semicircular.

4. A beverage container for dispensing a beverage through a straw having a preselected shape, said container comprising:

a body for holding said beverage, and having a top surface with access means, said access means including opening means passing through said surface, said opening means having a cross-section smaller than the cross-section of said straw, and at least one passing through said surface, said cut starting from and extending away from said opening means, said cut and said opening means cooperating to form top surface regions, said top surface regions bending inward for venting when said straw is inserted into said container.

5. The container of claim 4 wherein said opening means comprises a cut.

6. The container of claim 4 wherein said body includes a layer of fiber material.
7. The container of claim 6 wherein said body further includes a wrapping around said layer.
8. The container of claim 6 further comprising a wrapper disposed on said access means.
9. The container of claim 4 wherein said cover means comprises a foil.
10. The container of claim 4 wherein said cover means is disposed inside said container.
11. The container of claim 4 wherein said opening means has a cross section smaller than the cross section of said straw.
12. The beverage container of claim 4 wherein said opening means has a shape partially conforming to the shape of said straw.
13. In combination, a container and a straw cooperating for dispensing a beverage from said container, comprising:
a container body for holding said beverage and including a surface with straw access means, said straw access means including a hole having a shape partially conforming to the shape of the cross section of said straw, said hole being substantially smaller than said straw, and at least one cut line extending from said hole across said surface, said cut and said hole cooperating to form surface regions which are bent inwardly by said straw when said straw is inserted into said container for venting.
14. The container of claim 13 wherein straw is circular and said hole is semicircular.

14. The container of claim 13 wherein a plurality of cuts are provided, each extending radially away from said hole.

15. The container of claim 12 wherein container body is made of a fiber layer.

16. A beverage container substantially as described herein with reference to, and as illustrated in, Figures 3 to 8 of the accompanying drawings.